



## 11453 - IR Flat Field Uniformity

Cycle: 17, Proposal Category: SM4/WFC3

(Availability Mode: RESTRICTED)

### INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
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### VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) 47TUC	WFC3/IR	3	24-Jun-2008 21:01:09.0	yes
02	(1) 47TUC	WFC3/IR	3	24-Jun-2008 21:01:30.0	yes
03	(1) 47TUC	WFC3/IR	3	24-Jun-2008 21:01:47.0	yes

9 Total Orbits Used

### ABSTRACT

We will assess the uniformity and stability of the low-frequency flat fields on the IR detector. This will be accomplished using observations of the globular cluster 47 Tucanae (NGC104) at multiple pointings with multiple filters. By placing the same star at multiple locations on the detector and measuring the relative changes in its brightness, it will be possible to determine spatial variations in the response of the detector. Based on previous work with other instruments, a set of 9 pointings should be sufficient to characterize the stability of the flat field. For each filter to be tested, this set of 9 pointings will form an 3x3 box pattern on the detector, with steps of ~20% of the FOV in the x and y directions between observations. The complement of filters to be tested will be F105W, F125W, F140W, and F160W.

This proposal corresponds to SMOV activity id WFC3-40.

### **OBSERVING DESCRIPTION**

9 pointings, with 2 exposures in each of 4 filters taken at each pointing. All data for a given pointing are collected in a single orbit.

9 total orbits, broken into 3 visits of 3 orbits each. 8 exposures in each orbit, using 4 filters.

For consistency, we propose to use the same pointing in 47 Tuc as has been used in past ACS versions of this calibration.

### **CALIBRATION JUSTIFICATION**

No absolute photometric calibration is provided by this program. We will create a map of the relative sensitivity as a function of detector position. By taking data through 4 broadband filters covering the IR channel's sensitivity range, we will also check for color dependencies in this map.

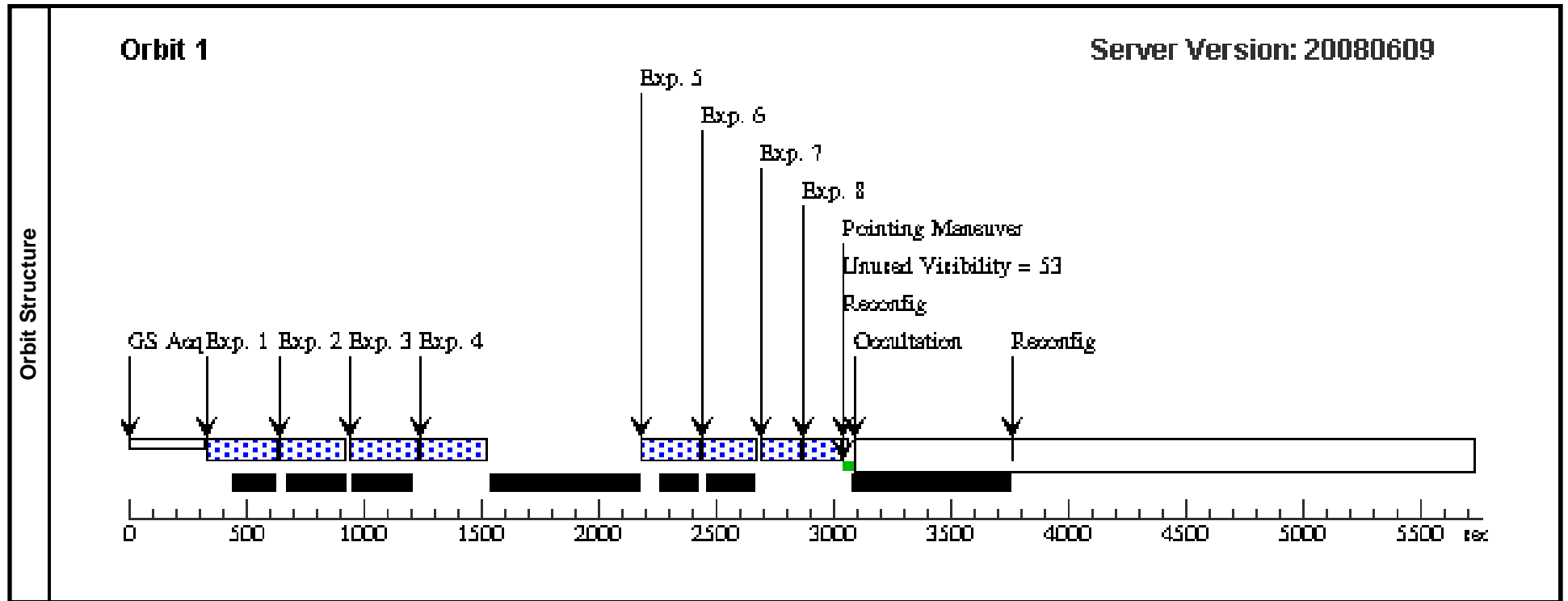
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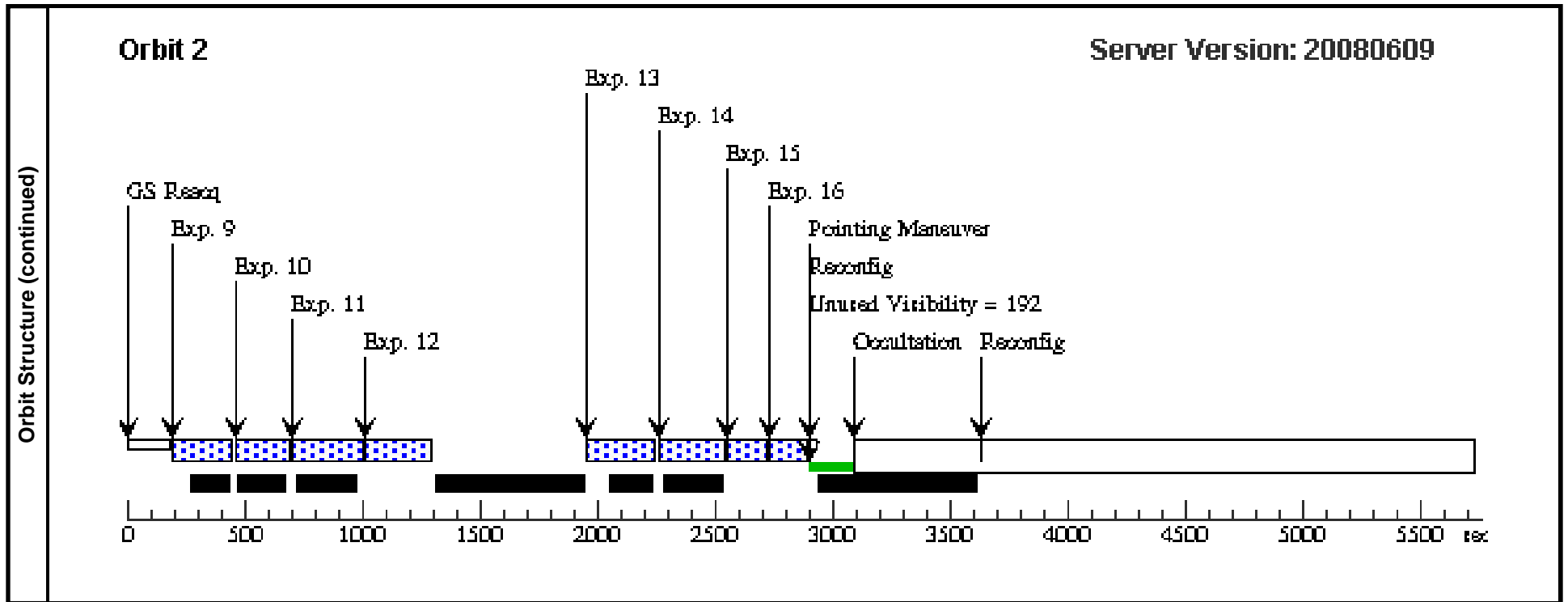
Wed Jun 25 01:01:52 GMT 2008

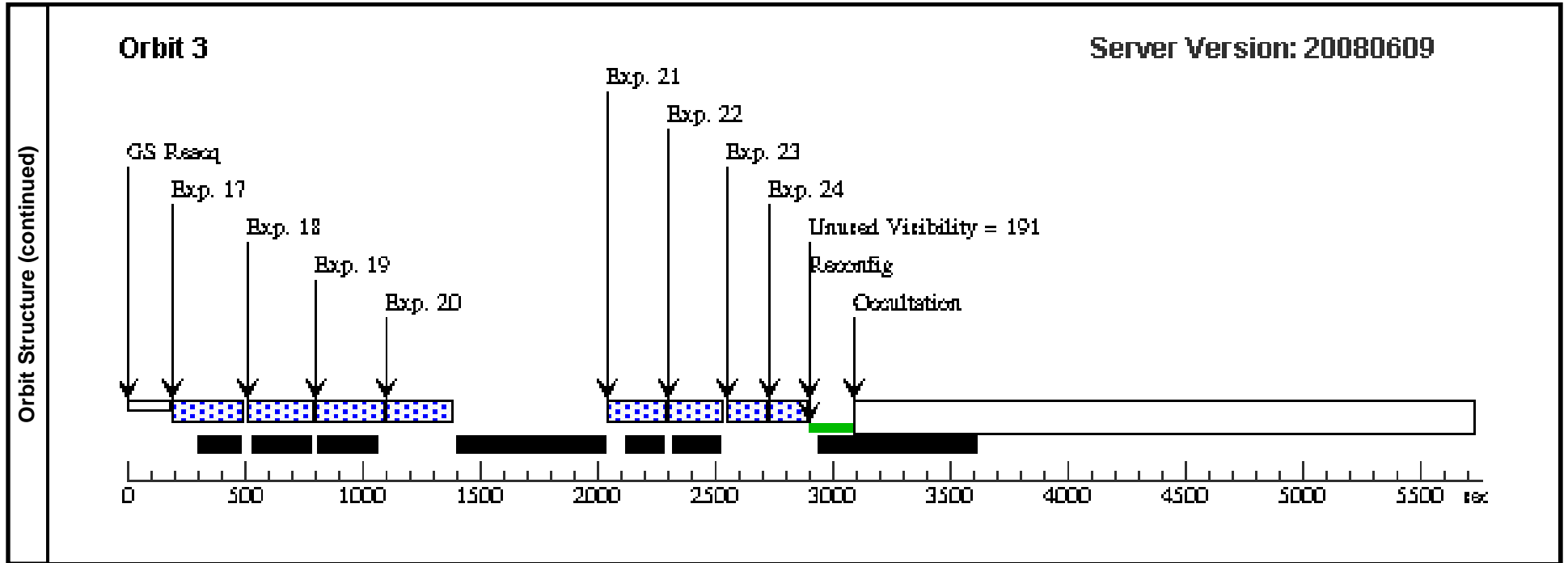
Visit	<b>Proposal 11453, Visit 01, implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	47TUC Alt Name1: NGC104	RA: 00 22 38.5000 (5.6604167d) Dec: -72 04 4.00 (-72.06778d) Equinox: J2000		V=17.5	Reference Frame: J2000				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	f160_pos1a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15			[==>]	[1]
	2	f160_pos1b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15			[==>]	[1]
	3	f125_pos1a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15			[==>]	[1]
	4	f125_pos1b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15			[==>]	[1]
	5	f140_pos1a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13			[==>]	[1]
	6	f140_pos1b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13			[==>]	[1]
	7	f110_pos1a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10			[==>]	[1]
	8	f110_pos1b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10			[==>]	[1]
	9	f140_pos2a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13	POS TARG 24,0		[==>]	[2]
10	f140_pos2b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13	POS TARG 24,0		[==>]	[2]	

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#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures (continued)	11	f125_pos2a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 24,0	[==>]	[2]
	12	f125_pos2b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 24,0	[==>]	[2]
	13	f160_pos2a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 24,0	[==>]	[2]
	14	f160_pos2b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 24,0	[==>]	[2]
	15	f110_pos2a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10	POS TARG 24,0	[==>]	[2]
	16	f110_pos2b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10	POS TARG 24,0	[==>]	[2]
	17	f160_pos3a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 24,-28	[==>]	[3]
	18	f160_pos3b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 24,-28	[==>]	[3]
	19	f125_pos3a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 24,-28	[==>]	[3]
	20	f125_pos3b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 24,-28	[==>]	[3]
	21	f140_pos3a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13	POS TARG 24,-28	[==>]	[3]
	22	f140_pos3b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13	POS TARG 24,-28	[==>]	[3]
	23	f110_pos3a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10	POS TARG 24,-28	[==>]	[3]
	24	f110_pos3b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10	POS TARG 24,-28	[==>]	[3]







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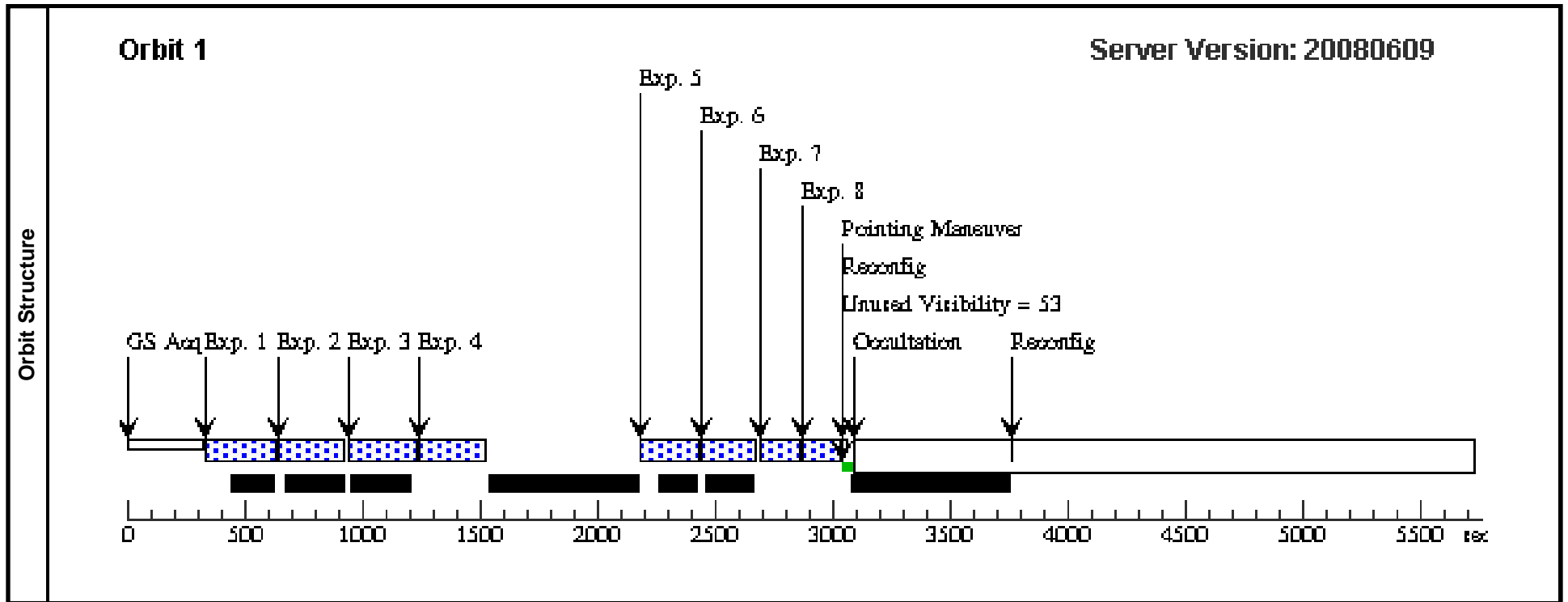
Wed Jun 25 01:01:55 GMT 2008

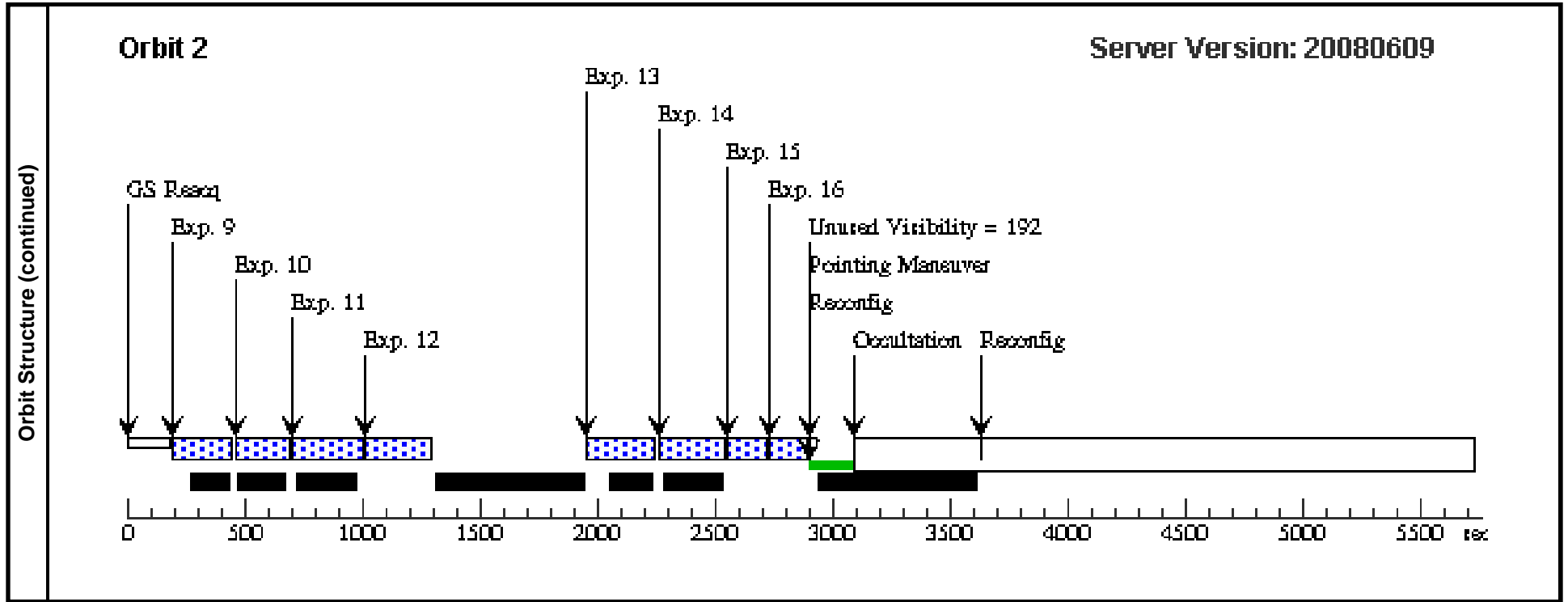
Visit	<b>Proposal 11453, Visit 02, implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	47TUC Alt Name1: NGC104	RA: 00 22 38.5000 (5.6604167d) Dec: -72 04 4.00 (-72.06778d) Equinox: J2000		V=17.5	Reference Frame: J2000				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	f160_pos4a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 0,-28		[==>]	[1]
	2	f160_pos4b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 0,-28		[==>]	[1]
	3	f125_pos4a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 0,-28		[==>]	[1]
	4	f125_pos4b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 0,-28		[==>]	[1]
	5	f140_pos4a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13	POS TARG 0,-28		[==>]	[1]
	6	f140_pos4b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13	POS TARG 0,-28		[==>]	[1]
	7	f110_pos4a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10	POS TARG 0,-28		[==>]	[1]
	8	f110_pos4b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10	POS TARG 0,-28		[==>]	[1]
	9	f140_pos5a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13	POS TARG -24,-28		[==>]	[2]
10	f140_pos5b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13	POS TARG -24,-28		[==>]	[2]	

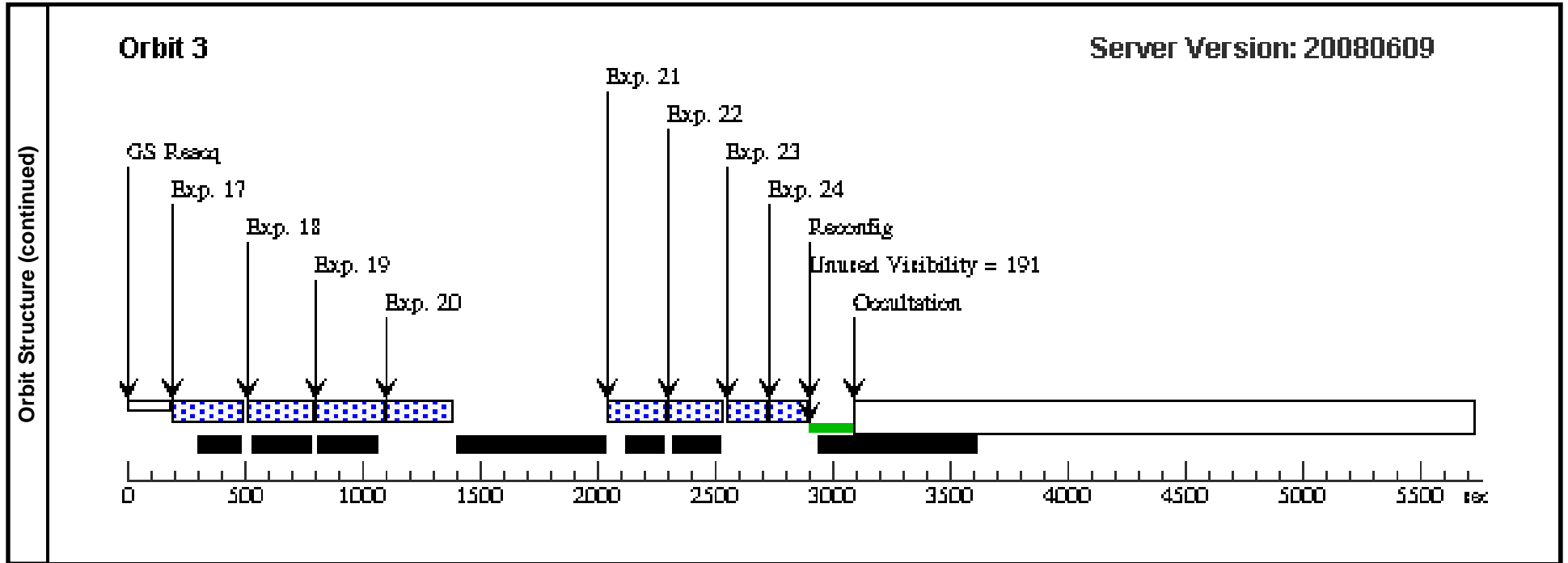


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Exposures (continued)	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	11	f125_pos5a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG -24,-28		[==>]	[2]
	12	f125_pos5b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG -24,-28		[==>]	[2]
	13	f160_pos5a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG -24,-28		[==>]	[2]
	14	f160_pos5b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG -24,-28		[==>]	[2]
	15	f110_pos5a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10	POS TARG -24,-28		[==>]	[2]
	16	f110_pos5b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10	POS TARG -24,-28		[==>]	[2]
	17	f160_pos6a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG -24,0		[==>]	[3]
	18	f160_pos6b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG -24,0		[==>]	[3]
	19	f125_pos6a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG -24,0		[==>]	[3]
	20	f125_pos6b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG -24,0		[==>]	[3]
	21	f140_pos6a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13	POS TARG -24,0		[==>]	[3]
	22	f140_pos6b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13	POS TARG -24,0		[==>]	[3]
	23	f110_pos6a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10	POS TARG -24,0		[==>]	[3]
	24	f110_pos6b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10	POS TARG -24,0		[==>]	[3]







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Visit	<b>Proposal 11453, Visit 03, implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	47TUC Alt Name1: NGC104	RA: 00 22 38.5000 (5.6604167d) Dec: -72 04 4.00 (-72.06778d) Equinox: J2000		V=17.5	Reference Frame: J2000				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	f160_pos7a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG -24,28		[==>]	[1]
	2	f160_pos7b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG -24,28		[==>]	[1]
	3	f125_pos7a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG -24,28		[==>]	[1]
	4	f125_pos7b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG -24,28		[==>]	[1]
	5	f140_pos7a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13	POS TARG -24,28		[==>]	[1]
	6	f140_pos7b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13	POS TARG -24,28		[==>]	[1]
	7	f110_pos7a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10	POS TARG -24,28		[==>]	[1]
	8	f110_pos7b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10	POS TARG -24,28		[==>]	[1]
	9	f140_pos8a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13	POS TARG 0,28		[==>]	[2]
10	f140_pos8b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13	POS TARG 0,28		[==>]	[2]	

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Exposures (continued)	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	11	f125_pos8a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 0,28		[==>]	[2]
	12	f125_pos8b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 0,28		[==>]	[2]
	13	f160_pos8a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 0,28		[==>]	[2]
	14	f160_pos8b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 0,28		[==>]	[2]
	15	f110_pos8a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10	POS TARG 0,28		[==>]	[2]
	16	f110_pos8b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10	POS TARG 0,28		[==>]	[2]
	17	f160_pos9a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 24,28		[==>]	[3]
	18	f160_pos9b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 24,28		[==>]	[3]
	19	f125_pos9a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 24,28		[==>]	[3]
	20	f125_pos9b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=STEP2 5; NSAMP=15	POS TARG 24,28		[==>]	[3]
	21	f140_pos9a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13	POS TARG 24,28		[==>]	[3]
	22	f140_pos9b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F140W	SAMP-SEQ=STEP2 5; NSAMP=13	POS TARG 24,28		[==>]	[3]
	23	f110_pos9a	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10	POS TARG 24,28		[==>]	[3]
	24	f110_pos9b	(1) 47TUC	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP2 5; NSAMP=10	POS TARG 24,28		[==>]	[3]

